

Pediatric Head Injury: Priorities, Challenges, Perspectives and Necessities

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Editorial

Traumatic brain injury is a public health problem. The economic and industrial growth of developing countries has increased the number of vehicles, specially motorcycles, which has subsequently associated with the increase of traumatic brain injuries related to transport vehicles [1]. Additionally, conflict zones in Central America, Africa and Middle East are affecting wide ranges of civilian population including children and teen agers [2].

The burden of trauma despite advances in early diagnosis and therapeutic techniques continue increasing and affecting health care systems in emerging economies. Trauma has surpassed infectious diseases and cancer as a major cause of mortality in low and middle income settings. Our understanding of trauma as an occasional event must change, and we need to move to treat it as a disease [3].

Due to this, traumatic brain injury in pediatric patients has increased and better prevention, diagnostic, treatment and rehabilitation options are much needed especially in low and middle income countries. In 2003 the first edition of the guidelines for the medical management of severe traumatic brain injury in infants, children and adolescents, was published and since then, advances in basic and clinical sciences research has emerged in order to understand better the pathophysiological responses associated with pediatric brain injury. The updated version of these guidelines was published in 2012, introducing significant changes in recommendations for hyperosmolar therapy, temperature control, hyperventilation, corticosteroids, glucose management, and prophylaxis of seizures [4].

The physiological and psychological effects of traumatic brain injury are possibly well established but is still unclear how long these effects can remain and how they can interact with the development of the brain network during specific ages [5,6]. Recently strong evidence has emerge in order to support the use of different measures such as decompressive craniectomy [7] and hyperosmolar therapy [8] in children. Evaluation of the impact of such measures in different contexts including low and middle income settings. It is time, to stimulate expansion of international research in pediatric neuro trauma, creating databanks in collaboration with international partnerships. This initiative should be led by well-established neuro trauma research groups from different countries. The possibility of integrate data and reduce the potential for bias as a result of misinterpretation of the dynamics of different health systems with limited resources will be a key process. These kind of analyses need to take into account low capacity for emergency referral and absence of subspecialty training as neurotrauma or pediatric neurocritical care.

In low and middle income countries, injury prevention will play a key role minimizing the burden of neuro trauma in children. Recent studies have described the potential effect of television and traumatic brain injury in children [9]. Strategies such as wearing helmets when riding bicycles and child passenger seats are non-expensive efforts that need to be supported by neurosurgical associations during capacity building for public policy.

Although the general principles of management of pediatric and adult are similar to the properties of pediatric traumatic brain injury.

They are unique. Research in the field of pediatric neuro trauma is important. The results should change clinical practice, saving the lives of more victims.

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